

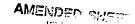




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- A method of transforming plants of the Allium genus comprising the following steps:
- (a) delivering previously manipulated DNA into embryo, or embryo derived culture cell types of the Allium genus via vector or direct gene transfer;
- (b) selecting transformed plant material;
- (c) culturing and regenerating the transformed plants; wherein the transformation is carried out without passage through a callus phase.
- 2. A method according to claim 1 wherein the Ailium genus is transformed with a strain of Agrobacterium.
- 3. A method according to any one of claims 1-2 in which the plants are onions.
- 4. A method according to any one of claims 1-3 wherein the embryos are transformed with a binary vector.
- 5. A method according to any one of claims 1-4 in which embryos of an Allium species are inoculated immediately following their isolation.
- 6. A method according to any one of claims 1-5 in which immature embryos are used.
- 20 7. A method of transforming Allium using immature embryos as an explant source, including:
  - (a) isolating immature embryos of the Allium plant to be transformed;
  - (b) innoculating cultures of the immature embryos with an Agrobacterium tumefaciens strain containing a binary vector;
- 25 (c) wounding embryos and infiltrating embryos with agrobacteria;
  - (d) transferring embryos to a selective medium;
  - (e) culturing embryo pieces;
  - (f) selecting putative transgenic cultures; and
  - (g) regenerating plants.
- 30 8. A method according to any one of claims 1-7 wherein the plant is transformed with an Agrobacterium tumefaciens strain containing a vector which carries a selectable gene.



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- 9. method according to claim 8 in which the selectable gene is a herbicide resistance gene.
- A method according to claim 9 in which the herbicide resistance gene is the bar gene or a glyphosate resistance gene.
- A method according to claim 8 in which the selectable gene is an antibiotic resistance gene.
- A method according to claim 11 in which the antibiotic resistance gene is the 12. nptll gene.
  - A method according to any one of claims 1-12 wherein the plant is ransformed with a modified alliinase gene.
- A transformed plant produced by the method of any one of claims 1-13. 14.
- 15. A transformed plant produced by the method of any one of claims 1-9 in which the resulting transformed plant contains a modified gene involved in sulphur pathway assimilation or breakdown and as a result has altered levels of sulphur compounds.

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